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Treatment in its  
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BY

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SOME CONSIDERATIONS CONCERNING  
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THERE are some forms of disease which have been handed down to us from remote antiquity in which the evolution of knowledge which leads to their cure has been a very slow process. Such, for example, has been the history of syphilis, small-pox, and pulmonary phthisis.

Equally ancient is the dreadful and dreaded disease which is known as cancer, and the fullness of time and knowledge has not yet come when it can be considered curable, certainly if we refer to it in those stages in which it is ordinarily seen.

It was a singular fancy of Galen, who saw in the distended and tortuous veins of the cancerous breast the resemblance to the claws of a crab, and therefore called the disease *cancer*—the crab—by which name it has been perpetuated through all the centuries since Galen lived; and it was a long step forward when the investigation of it was based upon other than purely clinical considerations.

\* Read before the Medical Society of the State of New York at its eighty-first annual meeting.

Now, while I firmly believe that the clinical symptoms are usually sufficiently positive, after the disease has made some headway, to enable one to pronounce a diagnosis, that assurance is frequently wanting in the early stages, especially in cancer of the uterus, and it is just these stages concerning which exact knowledge is of the greatest practical importance.

It is time, too, that our classifications of this and other morbid conditions were made to conform with the present state of anatomical knowledge, rather than with real or fancied resemblances to various objects in nature. To say that one cancer is encephaloid, another medullary, and another colloid, because the men who suggested these names saw in the first a remote resemblance to brain matter, in the second a resemblance to marrow, and in the third a slight resemblance to glue, would be amusing if such terminology were not so seriously received and reverently retained by the profession.

In other words, the only rational and scientific classification of anatomical entities is that which is based upon anatomical structure.

There are three principal theories with regard to the structure of cancer, all of them admitting, however, what is fundamental and easily recognized, namely, that the neoplasm cancer consists of a connective-tissue framework of alveolar formation, the alveoli being more or less densely packed with free cells. The essential features of those theories are as follows, viz. :

1. Virchow regards the structure as a heterologous one, the epithelial cells of the alveoli being the result of the proliferation of connective-tissue cells.

2. Rindfleisch considers that the cellular elements of the alveoli originate from epithelial structures, but that by a kind of epithelial infection the connective-tissue round

cells of the alveoli may be converted into epithelial elements.

3. Waldeyer regards cancer or carcinoma in general as simply an atypical epithelial new growth, which is derived essentially from epithelium wherever it occurs. (See Macewen, "Glasgow Med. Jour.," April, 1886; Waldeyer, Virchow's "Archiv," Bd. lv, 1872; Waldeyer, Volkmann's "Sammlung," No. 33; Perls, "Allgemeine Pathologie," Bd. i, pp. 480-485; Billroth, "Surgical Pathology" [Appleton, 1877], pp. 646-660.)

The theories of Thiersch and Billroth harmonize with that of Waldeyer, and, as was stated at the great discussion on *cancer* before the Glasgow Pathological and Clinical Society in 1886, nothing has appeared since Waldeyer's investigations were published which could refute them, Macewen also observing in that discussion that it was probable that the questions as to the structure and method of development of the neoplasm were settled.\*

In by far the larger number of cases cancer of the uterus is a primary affection, but it is not infrequently secondary, as the methods by which the disease is propagated would suggest.†

\* Friedländer has recently stated that Waldeyer's definition is not sufficient, and that we should add to it, as the most important peculiarity of cancer, the words "of a malignant character." The malignancy of the process is shown, he adds, by its forcing its way through various tissues without hindrance. (See Friedländer, "The Use of the Microscope," translated by Dr. H. C. Coe, Appleton & Co., 1885, pp. 170 *et seq.*)

† Two cases of secondary cancer of the uterus are reported in Dr. Willard Parker's tables, which include three hundred and ninety-seven cases of cancer of the breast ("Cancer," Putnam, 1885), these being the most recent statistics I have seen upon this subject. Both cases occurred in aged women many years after the removal of cancerous breasts.



As to whether the disease is local or constitutional in its origin, the weight of opinion now tends to the adoption of the former hypothesis. This question was vigorously discussed by the London Pathological Society in 1874 in a series of four notable sessions ("Trans. of the Path. Soc. of London," 1874), Mr. De Morgan, of the Middlesex Hospital, and others maintaining the former (local) view, and Sir James Paget the latter (constitutional). At the Glasgow discussion both views were also advanced, the strongest arguments being in favor of the former. (See "Glasgow Med. Jour.," April, May, June, July, 1886.) Among German gynæcologists and pathologists the *local* theory is quite generally held.

On the other hand, there is without doubt, in certain individuals, an hereditary tendency to develop certain types of disease under sufficient provocation, but the fact that so many daughters of mothers who have died from cancer of the uterus have lived and borne healthy children, and died without showing any signs of cancer in any form, militates strongly against the heredity theory which Sir James Paget has so earnestly endeavored to establish.

At the same time, the facts that cancerous tissue may be removed never so carefully and thoroughly, that the disease may remain latent perhaps for years, but almost always reappears, if not at the original site yet in some remote part or organ—these facts, I say, admonish us that there can be no radical removal of the cancerous uterus when its first stages are passed; that is, when it has gone beyond the uterus itself. The statistics of Schröder's experience in this matter are instructive and suggestive. (See Hofmeier, "Ztsch. f. Geb. u. Gyn.," Bd. x, H. 2, "Zur Statistik des Gebärmutterkrebses.") Of 812 cases of cancer of the uterus which he had seen either in public or private practice, 129 were operated upon successfully, and with the hope that a radical

cure would result. In only 29 of these had the disease failed to recur at the end of two years, and subsequently this number was further diminished.

Let it be borne in mind that these figures represent not only the work of one who has had more experience in this field than any other living man, but also that he is a man of great learning and operative skill, and enthusiastic upon the subject of the surgical treatment of cancer.\*

It is a sad reflection that, with all the boldness and dexterity which have been exerted since Freund's memorable essay proposing the complete removal of the uterus for cancer in 1876, with the improved vaginal hysterectomy, with resection of the rectum, bladder, ureters, and pelvic tissues, the disease will persistently recur unless, as has already been stated, the operation is performed before the advance guard, as it were, has gone beyond the reach of the knife. As yet I believe no one has been rash enough to profess to have found a bacillus of cancer, and, while one of the Glasgow disputants admitted the great advantage which would follow were a bacillus to be found "curled up in its epithelium," there was no difference of opinion among those who participated in the discussion that the disease was not likely to be placed upon this basis.

The possibility of its originating by inoculation deserves at least a passing thought. Several well-authenticated cases of cancer of the breast and cancer of the penis were cited by Macewen at the Glasgow discussion in proof of its inoculability, and if these are facts the same thing is possible for cancer of the uterus. There are still too few data upon this point to speak with positiveness.

\* Since this paper was written, word has been brought us of Professor Schröder's death. No man of his generation had done more to develop gynecological surgery, and his efforts were wise and conservative.

No one has as yet proposed any method of inoculation as a means of treatment, and herein lies a fine opportunity for some ambitious disciple of Pasteur. Inflammations and senility of the tissues have also been brought forward as possible causes of this disease. While the former may not constitute an immediate cause, they doubtless may predispose to it by their effect upon the tissues. Concerning the latter as a cause, nothing but speculation has been offered, so far as I know. The term is a very comprehensive one, and may refer either to worn-out tissues in early life, worn-out tissues which result from over-activity (*e. g.*, very frequent pregnancies), or to those which occur in women who have reached the later periods of life. Under any of these conditions it would not be difficult to speculate upon this point, but without a satisfactory conclusion.

The ordinary classification of cancer of the uterus into scirrhus, encephaloid, medullary, and colloid seems to me to be both artificial and confusing, for, the structure being essentially the same in all the forms, who can tell exactly how great a preponderance of one or the other anatomical element will constitute the dividing-line for each variety?

Following Waldeyer, I prefer to call all the forms *epitheliomata*; in other words, I would make *uterine epithelioma* and *uterine cancer* synonymous.\* Clinically, we have hard cancer or epithelioma when it is chronic or slow in its development, and when there is an excess of connective tissue, which also means low vascularity, relatively few cells, and slight discharges. We have soft cancer or epithelioma when it is acute or rapid in its course, and when there is an excess of cells, which also means high vascularity, relatively small quantity of connective tissue, offensive dis-

\* Friedländer objects to the term epithelioma for epithelial tumors of all kinds. He prefers the term *cancer* for those that are malignant, and adenoma for the benign growths (*l. c.*, p. 172).



charges, and perhaps dangerous hæmorrhages. When hard cancer has reached the stage of ulceration, it is frequently indistinguishable from the soft variety.

It has been thought that certain nations or races, certain classes of society, and certain ages were more susceptible to this disease than others. It has been alleged that German and Irish women show this susceptibility to a marked degree, and that the negro race is practically exempt from it. It has also been stated that the working classes are more liable to it than their sisters who are more fortunately circumstanced in the struggle of life, all of which statements are true within certain limits. In Schröder's statistics (*l. c.*) of 18,000 cases of disease of the female genito-urinary apparatus which were seen at his Poliklinik, 603 (=3·6 per cent.) were cases of uterine cancer. Of 9,400 cases which were seen in private practice, there were 209 (=2·18 per cent.) cases of cancer of the uterus. Presumably most of the women were Germans, and the proportion of cancer to other so-called female diseases is large. The larger percentage in public as compared with private practice is also noticeable and significant.

Of 65 cases of uterine cancer which have been seen at the New York Skin and Cancer Hospital during the past three years, 25 occurred in Irish women, 15 in Germans, 13 in Americans (including 1 negress and 1 mulatto), 8 in English women, 2 in Scotch, and 2 in French. They were, almost without exception, poor, hard-working women, living in bad hygienic surroundings. The excess of Irish and Germans in this table may be accounted for by the preponderance of these elements in our cosmopolitan community. The negro race and its modifications are by no means exempt, as the mortality reports of our Southern States will show. (See Thomas, "Dis. of Women," 1880, p. 584.) All writers agree that cancer of the uterus is exceptional in nulliparæ, and that

the tendency to it increases with increased fertility. Of Schröder's 812 patients only 39 were nulliparous, and in the 65 whose cases I have analyzed there were but 3 (their ages being thirty-nine, fifty-three, and sixty-seven, respectively).

The average number of children for 49 of these 65 women who were known to be parous was nearly  $4\frac{1}{2}$ , one of them having had 13. Of Schröder's patients, 76 had borne 10 or more children each. In Schröder's table almost all the women were between thirty and sixty years of age, the largest number, 272, being between forty and fifty—that is, in the decade which includes the climacteric. Hence the conclusion is reasonable that cancer of the uterus is practically limited to the period from the thirtieth to the sixtieth year of life, by far the largest number of cases occurring between the fortieth and fiftieth years. In Schröder's cases it was observed that the disease developed very rapidly during the puerperal period—that is, while the pelvic circulation was in an exalted condition.

To these causes—overwork, underfeeding, bad hygiene, race peculiarities, and family tendency, however much or little the latter may be influential—I wish to add another, upon which due stress has never been laid by any writer with whose work I am acquainted, and that is excessive sexual indulgence. Excessive sexual indulgence means excessive hyperæmia of the uterus and vagina, excessive vasomotor irritation, excessive destruction of the epithelium of the vagina and cervix uteri; and when we reflect that this indulgence is so frequently persisted in without respect to the normal hyperæmia of the menstrual period, the softened condition of the tissues during pregnancy, or their parietic condition in the period which follows parturition, is it any wonder that cancer of the uterus heads the list, and that in by far the greater number of cases it is the cervix or

vagina which first resents the injuries which have been received?

Considering all the facts which have been brought forward, it is not strange that cancerous disease is reported to be increasing. The increase is most marked in the crowded cities, for there the struggle for existence is hardest, and the three great blessings of nature—air, sunlight, and water—are least enjoyed by those whom cancer selects for its victims.

In Great Britain the deaths from cancer in 1858 were 334 to the million of inhabitants; in 1862 they were 368 to the million; in 1864 they were 394; in 1867, 403 to the million (McCall Anderson, "Glasgow Med. Jour.," July, 1886, p. 17); in 1873-'74, 443 to the million (Post, "Am. Jour. of the Med. Sci.," Jan., 1886, p. 113). In New York city in 1875 they were 400 to the million; in 1885, 530; but what is especially significant is the fact that one half of all cases of cancer involve the uterus (Post, *l. c.*).

From the foregoing it may be inferred that I am an adherent of the doctrine that cancer of the uterus is the result of local irritation. Constitutional weaknesses, bad hygiene, improper alimentation, excessive fertility, etc., prepare the soil, as it were, but a local irritant is, in most cases, needed to precipitate the disease. It may be a long time, however, before the effect of that irritation is fully developed, and this is not a forced hypothesis, for we frequently have severe forms of disease of other kinds developed years after the original lesion was received. As to the seat of election for development of cancer of the uterus, I know of no more rational exposition than Schröder's ("Brit. Med. Jour.," Dec. 8, 1883). I shall therefore adopt that—with some modifications. My observations upon this portion of my subject have been almost entirely clinical, and I have been able to detect the disease in its early stages in only a very small number of cases.



1. First in point of frequency, least malignant, according to Schröder, and most amenable to radical operation, is the form of hard cancer which is commonly known as the *cauliflower excrescence*, or *cancroid*, or *papilloma*, which is of slow growth, and involves principally the epithelium of the follicles of the mucous membrane of the vaginal portion of the cervix. Schröder describes it as involving also the mucous membrane of the vagina, the pelvic cellular tissue, and, finally, the mucous membrane of the cervical canal. It seems to me, however, that before the latter is reached there must be more or less extensive lymphatic infection, and hence it is difficult to accurately define the limit within which radical removal is possible.

2. The second form is developed upon the pavement epithelium of the vagina and vaginal portion of the cervix, hard in character, and slow in development. Connective tissue in it is relatively abundant, and I have recently seen a case in which there were large areas of connective tissue which had completely displaced the epithelial elements, and in these areas the progress of the disease appeared by the microscope to be self-limited. Beyond these areas, however, the vessels, though few, were very large.

3. This variety has a relatively large epithelial element, with less of the connective tissue, and is, therefore, rapid in its development and soft in character. It begins in the epithelium of the mucous membrane of the cervical canal—a location which would favor rapid growth—and ulcerates outwardly and upwardly, presenting a cavernous opening, with walls which are readily broken down. In my experience this form has been more frequent than the first variety in this series, contrary to the experience of Schröder.

4. This form is less frequently seen than either of the others, and begins in the mucous membrane of the body of the uterus. In Schröder's tables only six per cent. of the



cases were of this variety. As it develops, the uterus enlarges from infiltration; a fungous and then an ulcerated mass is found upon the mucous membrane, and subsequently the disease extends to the cervix.

Of course, only a mere outline of these four modes of development of uterine cancer has been attempted; but, with the clinical characteristics *hard* and *soft*, it may be sufficient to furnish the necessary data for differentiation.

Starting with the idea that the development of the neoplasm cancer is caused by the proliferation of epithelial elements at the point or points of irritation, and that there is associated with this process a proliferation of connective-tissue round cells, all the cells being included in an alveolar framework of connective tissue which is more or less abundantly supplied with blood-vessels and lymphatics, according as the progress of the disease is rapid or slow, it has been found that there are at least four methods by which it is propagated:

1. By direct extension into the surrounding tissues, displacing and destroying them by the greater activity of its elements, and itself breaking down and ulcerating in turn.

2. By invasion of lymphatic ducts and glands, choking and infiltrating them, the cells constantly proliferating in their onward march, and finally entering the blood-current, and depositing themselves in distant parts or organs as *foci* for the formation of secondary growths which continue identical in structure with the primary one.

3. By direct entrance into the blood-vessels, especially the veins, of the original structure, thus infecting the system, and producing secondary growths more rapidly than is the case when the lymphatic system is first traversed. The latter is the usual, the other the exceptional, method by which general infection is accomplished.

4. By auto-inoculation, the infecting epithelium being directly transferred or transplanted from the primary growth to the structure which is immediately contiguous. The existence of such a method has been seriously questioned by some writers; but well-authenticated cases are on record in which it has occurred. In cancer of the uterus it is at least extremely probable that such propagation occurs, as, for example, when epithelium from the vaginal portion of the cervix is transplanted upon the adjacent vaginal mucous membrane.

All the foregoing points were clearly stated in the masterly papers of Coats and Macewen at the Glasgow discussion already referred to, and their order is that which was followed by Macewen.

As yet very little has been said in regard to the operative treatment of these growths, and this is the only rational method of procedure until the great discovery shall be made which Paget has prophesied of a potent agent which, taken internally, shall alter the condition of the cancerous subject in a manner analogous to the effect of mercury upon syphilis.

Without going into the details of the various partial and would-be radical operations, permit me to say that I thoroughly believe in them as the best thing we have at present. Schröder, with indomitable faith and perseverance, has said, "If but one in twenty recovers, still I shall operate"; and I do not agree with Knowsley Thornton in his belief that both the vaginal and the abdominal operations will soon drop out of surgical practice ("Brit. Med. Jour.," Dec. 8, 1883). Even if the limit of life after such operations shall not exceed two years, it seems to me to be worth while to give a woman a reprieve for that period, as long as men like Brennecke can report eighteen consecutive hysterectomies without a death (see Post, "Am. Jour. Med,

Sci.," Jan., 1886), and Schröder, Martin, and Staude show results which are almost as good.

The limits of this paper will not permit me to discuss the indications for the various operations, and whether they should be more or less extensive. I must refer you for such matters to the writings of the gentlemen whom I have mentioned, and to those of Czerny, Billroth, Tauffer, Hofmeier, Fritsch, and others.

Let us now consider the question of the palliative treatment of this disease in its later stages. I believe that no one will offer objection to the following propositions :

1. It is the duty of a physician to use all available means to prolong life.

2. If life can not be prolonged to any considerable extent, it is still his duty to make it as comfortable as possible.

Upon this basis the cancer department of the New York Skin and Cancer Hospital was established and is continued.

By the later stages of the disease is meant those periods in which constitutional infection has almost certainly occurred, and in which the question of radical removal is not dreamed of. The uterus is usually firmly fixed, ulceration exists to a greater or less degree, and the peritonæum, bladder, and rectum have received contributions by extension of the primary growth. Frequently the health of the individual is not shattered, but serious inroads upon it are almost inevitable from the pain, exhausting discharges, and interference with function which have now existed for weeks or months. The plan of treatment which is followed in the Skin and Cancer Hospital is comprehensive, including surgical, medical, dietetic, and hygienic means. It may be objected that the surgery of such cases is not of a very exalted character. That may be true in one sense, but, my friends, it seems to me far better than shaking the head



and doing nothing. Besides, it is humane, hence unselfish, hence to be approved.

"It is the good," says Socrates (Plato's "Gorgias"), "and not the pleasant, which is the end of all actions. If we seek for the pleasant, we seek it because we believe it to be the good, and all things ought to be done for its sake," etc.

Assuming that the patient is sufficiently robust to bear the operation, and it really requires very little strength, for the shock and inflammation which follow are usually slight, after anæsthetization she is placed in Sims's position, and a large Sims's speculum is introduced. The scissors are used for the removal of all tissues which can be so removed, and with Sims's curette the vagina and uterus are scraped as thoroughly as circumstances will permit. It must be done rapidly, for the hæmorrhage is sometimes free, and it may be necessary to tampon the cavity for a few minutes with cotton dipped in a solution of tannic acid or some other styptic. There is seldom trouble from spurting arteries, the curetting being a lacerating rather than a cutting operation. The hæmorrhage having ceased and the cavity having been dried, a very large and short Fergusson's speculum is introduced, which not only dilates the vagina but illuminates the cavity of operation. An important detail, which will cause unpleasant consequences if overlooked, consists in packing wet absorbent cotton around the speculum at the vulva and vaginal entrance.\*

The bulb of the Paquelin cautery, at red heat, is then carefully applied over the entire field of operation, and is followed by a light cotton tampon, the first piece of which is smeared with vaseline, and the others either with a solu-

\* Previous to the use of the cautery, I would suggest a careful inspection of the field of operation with a small electric light, such, for example, as is used by laryngologists.



tion of bicarbonate of sodium or a mixture of iodoform and the fluid extract of eucalyptus. The tampon is allowed to remain two or three days, and the slough will come away two or three days later. If the tissues will then admit it, the cavity is carefully packed with cotton dipped in a thirty-per-cent. solution of chloride of zinc, which may also remain two or three days. Within a week an extensive slough of the entire interior of the uterus may be removed, and an apparently healthy granulating surface of the remainder of the organ will usually be found. Subsequent surgical treatment may consist of vaginal irrigations of hot water and suitable topical applications, astringents and disinfectants being of course selected.

In a few cases in private practice my esteemed friend, Dr. J. E. Janvrin, who is the head of the cancer department of the hospital, has used a paste made from the Brazilian plant *alveloz*, one of the *Euphorbiaceæ*, which has only recently been brought to this country, as a topical application, not only for cancer of the uterus, but for cancer of the rectum, the breast, and the face, and he has expressed great satisfaction with the results thus far. None of the cases of uterine cancer have been in advanced stages, however. The effect is caustic, but the pain does not last very long, and the result, as I have seen it in a case of cancer of the right frontal region of many years' duration in a woman nearly seventy years of age, is to produce a very healthy-looking surface, and to remove the indurated and infiltrated border which marks the advance of the disease. Dr. Janvrin has not concluded from his experiments thus far whether any permanent benefit may be expected from this drug, and whether it acts otherwise than locally.

The hygienic treatment of these cases which are now under discussion consists in removing the patients from the city hospital to the country branch at Fordham Heights.

There, upon high and dry ground, small pavilions have been erected, in which all the benefits which can be derived from pure air, sunlight, and quiet and pleasant surroundings are enjoyed.

I regret that the limits of my paper prevent me from dwelling upon this feature of the treatment as its importance deserves.

The dietetic portion of the treatment during the last months of life is, in my opinion, of the highest importance. When the stomachs of the patients will not tolerate the ordinary fare of meat and vegetables, and obstinate gastric troubles usually constitute the most prominent features of the closing scenes of their lives, it seems to me that we can do no better than to pattern our treatment largely after that which is adopted at the beginning of life in connection with that most sensitive of all organs—the stomach of a baby. Milk, therefore, forms the basis of the diet, and it is combined with lime-water or with bicarbonate of sodium; it is taken in the form of kumyss, or in a peptonized form, and, when all of these have failed, it has been used in certain cases, and with great satisfaction, in the cream mixture which was prepared a few years ago by Meigs. It would be quite unnecessary to refer to the indications as to the quantity of food to be given in such cases, or to the proper intervals; these are among the elements of medical practice. Stimulants are used freely with the milk, and it need not be stated that whisky and ammonia are the agents which are preferred. Rectal alimentation is out of the question for obvious reasons. The future may help us in the matter of the endermic use of food in this disease. There is a ray of hope in this proposition when we consider the facility with which oleates are absorbed through the skin. The medical treatment is quite insignificant. With individuals in this condition the stomach is intended almost exclusively

for food, and the drugs which would be appropriate enough for many symptoms which are identical with those that also appear in the late stages of cancer are now of little use, or rather they are more likely to harm than to benefit. Opium is used, of course, if it is required, but, under the treatment which has been described, it has been a matter of astonishment to me that so little pain is present, especially when I have seen, post mortem, the enormous secondary deposits in sensitive areas.

Death in many of the sixty-five cases which are in my table has come very slowly, and under far more favorable circumstances than could possibly have existed in the dreary and cheerless places which these poor creatures called their homes. No man need feel ashamed of working in such a cause, even though the results be not brilliant.

In "Muarda," the beautiful story of ancient Egyptian life by George Ebers, one of the most interesting characters is Nebsecht, a physician-priest. With greater enthusiasm for investigation than for the duties of the priesthood, his thirst for knowledge impels him to the dissection of animals, and finally he exiles himself that, among a less superstitious people than the Egyptians, he may continue his studies upon the human body. He demonstrates to his satisfaction that the seat of knowledge is not in the heart, as his priestly education had informed him, but in the brain. Finally he receives fatal injuries while rescuing a young princess from the burning palace of the Pharaoh. As death approaches and he reflects upon the work which he loved, he says to the friend by his couch: "It is not seeing, it is seeking that is delightful." And so, in respect to these most hopeless cases, seeing no cure as yet, still it is delightful to seek for it, to seek to lessen the measure of human suffering.







